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Wei-Wen Yu Center for Cold-Formed Steel Structures

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CCFSS NEWS

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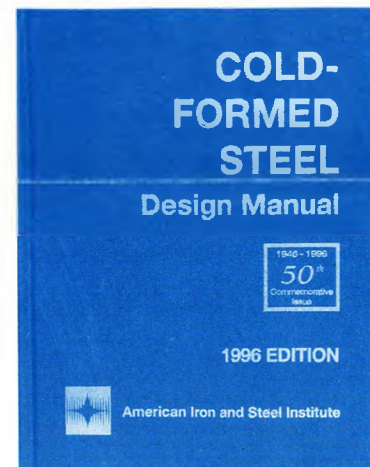
Volume 8, Number 1

AUGUST 1997

New Design Manual Published by AISI

The 1996 Edition of the AISI *Cold-Formed Steel Design Manual* has been published and may be purchased from USA Fulfillment/AISI, Box 4237, Chestertown, MD 21690 (Telephone: (800) 277-3850, Fax: (410) 810-0910). This new publication includes eight chapters on the design of cold-formed

steel structural members and connections. The new (1996) Specification is included as Part V of the Manual. The contents of the Design Manual are summarized in CCFSS Technical Bulletin, Vol. 6, No. 2, August, 1997.



Steel-Framed Home Dedicated in Cleveland

A two-story, cold-formed steel-framed house was dedicated to a Cleveland area family on May 27, 1997 as a special opening event for the 1997 AISI General Meeting. AISI leadership partnered with the greater Cleveland Habitat for Humanity, and with the cooperation of the City of Cleveland, presented the steel-framed home to Kim Rowdy and her three sons.



Steel-framed home dedication ceremony

to Mrs. Rowdy during a dedication ceremony on Cleveland's Public Square as city officials and business leaders looked on.

For Kim Rowdy, it is a dream come true. "I always dreamed of us having our own home," the mother of three boys, ages 10, 9, and 8, said "but I'm still pinching myself to make sure it's for real. My oldest son can't wait to have his own room," Mrs. Rowdy said.

AISI forged a partnership with Habitat for Humanity in 1994 and since then the Institute has been helping them build new steel-framed homes in communities nationwide. The Institute has participated in the construction of over 100 homes for families in need of housing.

Curtis H. "Hank" Barnette, Chairman of the American Iron and Steel Institute and CEO of Bethlehem Steel Corporation, Bethlehem, PA, Dave H. Hoag, Chairman and CEO, the LTV Corporation, Cleveland, and Stephen Frye, Executive Director, Greater Cleveland Habitat for Humanity, handed the keys to the house

AISI Committee on Specifications Held Meetings in Boston

The AISI Committee on Specifications and its subcommittees held their biannual meetings in Boston, MA during July 24-26, 1997. The major topics of business were concerned with the improvement of the Specification for the Design of Cold-Formed Steel Structural Members based on the results of recent research and the planning of future projects. Currently, the Committee and its subcommittees are developing revised and new design provisions for (a) tension members, (b) beams having one flange through-fastened to decking or sheathing, (c) webs with openings, (d) bolted connections, and (e) resistance welds.

Steel Deck Institute

The Steel Deck Institute has a new president, a new managing director, and a new address. It also has a new publication. The new president is Mr. Robert Paul of Epic Metal Corporation. Bob is a graduate of the University of Pittsburgh and is a P.E. He has been employed at Epic for over twenty years as Senior Project Manager and has been very active on several technical committees of the SDI.

The new managing Director is Mr. Steven A. Roehrig. Steve is a P.E. and has his own consulting firm. Before starting his own company, he worked for Roll Form Products - a steel deck manufacturer - and served on several committees of the SDI.

The new address is: Steel Deck Institute, P.O. Box 25, Fox River Grove, IL 60021-0025. Telephone: (847) 462-1930, FAX: (847) 462-1940.

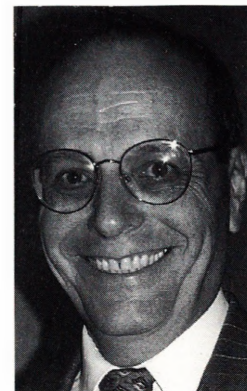
The new (1997) publication is the second edition of the "Composite Deck Design Handbook," by R.B. Heagler, L.D. Luttrell, and W.S. Easterling. This text includes the latest research results from West Virginia University and Virginia Polytechnic Institute and State University. The design method is primarily LRFD with ASD shown as the alternate. Copies of the new Handbook can be purchased from SDI.

Personal News

Michael Werner Joins the AISI Staff

Mr. Michael Werner has recently joined the American Iron and Steel Institute to head the AISI Commercial, Industrial and Institutional Buildings Division of the Construction Market area. Mike holds a Bachelor of Science degree in Civil Engineering from the University of Wisconsin. He is a registered professional engineer in the States of Ohio and New Jersey with a solid background in management, committee work, and education training of construction professionals. Prior to joining AISI, he was employed by the National Conference of States on Building Codes and Standards for ten years. His diverse technical experience includes drafting consensus standards for light gage, cold-formed steel design and construction, training management and quality control development.

Mr. Werner is married and has two children. He is also the proud grandfather of a baby girl. His hobbies include woodwork, gardening and tennis. Welcome aboard Mike.



Michael Werner

Wei-Wen Yu Honored for Significant Contribution to Steel Industry

The American Iron and Steel Institute recognized Dr. Wei-Wen Yu, Curators' Professor Emeritus of the University of Missouri-Rolla, at a special ceremony on May 27 during its 1997 General Meeting in Cleveland, Ohio for the contribution he has made in a career dedicated to developing the most advanced designs for cold-formed steel structures. Dr. Wei-Wen Yu's vision and leadership in work spanning several decades has resulted in a number of innovative designs for the steel industry in the automotive and construction markets. He has advanced the design of sheet steel in the automobile and construction markets significantly.

Mr. Curtis H. Barnette, Chairman of AISI and Chairman of Bethlehem Steel Corporation presented Dr. Wei-Wen Yu with a Certificate of Appreciation on behalf of AISI's Board of Directors and the North American steel industry for his career of leadership and dedication as a researcher, designer, and educator and "for inspiring the contemporary use of steel." AISI Chairman Barnette said, "Dr. Yu was instrumental in the development of load and resistance factor design which has made cold-formed steel one of the most advanced in designs for the construction industry."



Wei-Wen Yu (center) received a Certificate of Appreciation from AISI Chairman Curtis H. Barnette (left) and AISI President Andrew G. Sharkey (right).

Professor Yu joined the UMR faculty in 1968. Prior to that time he worked for AISI as a senior research engineer for seven years. At UMR, he conducted numerous research projects in support of AISI's cold-formed steel design specifications for construction and the *Automotive Steel Design Manual* for car body design, along with the AISI and ASCE standards for stainless steel design. In addition, he has directed 13 international specialty conferences and 14 short courses on cold-formed steel structures. In 1990, he founded the UMR Center for Cold-Formed Steel Structures, and has served as Director for the Center since its inception. In 1993, he established the Wei-Wen Yu Fellowship in the UMR Civil Engineering Department.

Yu is the author of the textbook, *Cold-Formed Steel Structures*, published by McGraw-Hill in 1973 and the author of *Cold-Formed Steel Design*, published by John Wiley and Sons, in 1985 and 1991. He is the editor of 13 conference proceedings, the co-editor of several professional books, and the author or co-author of more than 180 technical papers and research reports.

Yu has served on AISI's Committee on Specifications for the Design of Cold-Formed Steel Structural Members since 1968 and has been keenly involved with the automotive sheet steel program since 1981.

Metal Construction Association

The **Guide Specification for Residential Metal Roofing** has been prepared by the MCA's Residential Roofing Council, along with the National Coil Coaters Association, and the American Iron and Steel Institute. This publication covers shingles and non-structural panel types of manufactured metal roofing products with glossaries of both ASTM and metal roofing terms. For the purpose of demonstrating how to specify performance requirements, the **Guide Specification** also addresses quality assurance issues, materials, equipment and accessories, as well as fabrication and installation tolerances. In addition to the **Guide Specification**, MCA has also published a brochure "An American Tradition: Metal Roofing - Durable, Beautiful, Economical," for residential roofing application. Copies of the **Guide Specification** and brochure can be ordered from Metal Construction Association, 11 S. LaSalle Street, Suite 1400, Chicago, IL 60603 (Telephone: (312) 201-0193, Fax: (312) 201-0214).

The MCA has sponsored a research project on the diaphragm capacity of through fastened metal panels, which is being conducted at West Virginia University under the direction of Professor Larry Luttrell. The research team has assembled all available fastener data and has made comparisons with other published information. The research findings will be released within the coming months.

METALCON International '97

METALCON International '97 has been scheduled for October 28-30, 1997 in the Georgia World Congress Center, Atlanta, GA. It will be the biggest and most successful exhibition and training opportunity in the history of METALCON. In addition to the anticipated record numbers of exhibitions and attendees, there will be two special

MCA programs including the MCA Awards Program and the MCA Wall of Fame.

For further information, please contact METALCON International Director, Claire Kilcoyne at: PSMJ Resources, Inc., 10 Midland Ave., Newton, MA, 02158 (Telephone: (617) 965-0055, Fax: (617) 928-1670).

Rack Manufacturers Institute

The Rack Manufacturers Institute (RMI) recently announced the availability of the Specification for the Design, Testing and Utilization of Industrial Steel Storage Racks.

This specification has dramatically changed from the 1990 edition which it superseded. The specification includes complete seismic design guidelines and maps and addresses load and resistance factor design (LRFD) and allowable stress design (ASD). For more information or to order, contact the Material Handling Literature Department at 704-676-1190.

The Rack Manufacturers Institute is also currently involved in a bi-lateral

initiative with the European Federation Europeenne De La Manutention to consider more global Harmonization of Racking Standards (FEM Section X). At present, the prescriptive characteristics of each region's codes are being analyzed and benchmarked to determine what steps might be necessary to affect harmonization. Assuming that an acceptable (to both sides) consensus can be reached, the longer term objective would be to broaden the initiative to other regions and to explore the possibility of International Standards through ISO (International Organization for Standardization).

UMR Short Course and Conference

For the purpose of teaching cold-formed steel design using the new AISI Specification, the UMR 15th Short Course on Cold-Formed Steel Structures will be offered in St. Louis, Missouri during October 6-9, 1997. In addition, the 14th International Specialty Conference on Cold-Formed Steel Structures will be held in St. Louis, Missouri on October 15-16, 1998 to discuss the structural research and design of cold-formed steel structures. Both programs are briefly reviewed in subsequent sections. For further information, contact Continuing Education, 103 Mechanical Engineering Annex, University of Missouri-Rolla, Rolla, MO 65409-1560, USA. Telephone: (573) 341-4132, FAX: (573) 341-4992.

Short Course on Cold-Formed Steel Structures. The UMR short course deals with the fundamentals of cold-formed steel design and is intended to provide engineers and others with a better understanding of the basic principles used in the current AISI design methods. Unlike previous short courses, this year's course includes several new features: (1) Use of the new AISI combined ASD/LRFD Specification and the new 1996 Design Manual, (2) An exposition on computer programs and demonstrations of available programs, and (3) New topics such as shear diaphragms and standing seam roof systems. The deadline for registration is September 19, 1997.

14th International Specialty Conference. The conference will cover the following subjects: (1) Basic and applied research, (2) Structural design, (3) Development of new design criteria, (4) Development of new products, (5) Manufacturing techniques, (6) Construction methods, (7) Economy and effective use of steel, and (8) Engineering education. Abstracts of papers should be submitted by November 3, 1997, and written manuscripts should be sent by April 13, 1998, to Dr. Wei-Wen Yu, Center for Cold-Formed Steel Structures, Department of Civil Engineering, University of Missouri-Rolla, Rolla, MO 65409-0030, USA

Other Conferences

International Conference on Experimental Model Research and Testing of Thin-Walled Structures, Czech Republic

The International Conference on Experimental Model Research and Testing of Thin-Walled Structures will be held during September 22-24, 1997 in Prague, Czech Republic. It is organized by the Academy of Science of the Czech Republic. Main topics of the conference include: (1) Physical models in conceptual design, (2) Experimental methods, (3) Modeling of loading and experimental conditions, (4) Testing of thin-walled structures, (5) Cycling tests and fatigue, (6) Experimental data in calibration of computational models, and (7) Failure analysis of thin-walled structures. A total of 52 papers will be presented at the conference. For further information, contact UTAM CLEM, Vysehradskr 49, 128 49 Praha 2, Czech Republic (Fax: 0042-2-295903).

VIIIth Symposium on Stability of Structures, Poland

The VIIIth Symposium on Stability of Structures will be held in Zakopane, Poland during September 22-26, 1997. Topics of the Symposium include: (1) Theoretical foundations, (2) Stability of framework structures, (3) Buckling, post-buckling, and load-carrying capacity of thin-walled structures, (6) Numerical simulation and models, and (7) Experimental investigations. For further information, contact Organizing Committee of Stability of Structures, Department of Strength of Materials and Structures, Technical University of Lodz, ul.B Stefanowskiego 1/15, 90-924 Lodz, POLAND. Telephone: (0-48) 42-31-22-14, FAX: (0-48)42-31-22-03.

Second World Conference on Constructional Steel Design, Spain

The Second World Conference on Constructional Steel Design will be held in San Sebastain, Spain during May 11-13, 1998. The conference will cover (1) A world economic and technical review of the market opportunities for steel construction, and (2) The current activities and future strategies for constructing with steel that will ensure these market opportunities are realized. For further information, contact Mrs. Christine Roszykiewicz, World Conference Secretariat, The steel Construction

Institute, Silkwood Park, Ascot, Berkshire, SL5 7QN, United Kingdom. Telephone: (44) 1344 23345, FAX: (44) 1344 22944 or E-mail SCI@cityscape.co.uk.

Second International Conference on Thin-Walled Structures, Singapore

The University of Singapore, jointly with the University of Strathclyde and National Science Foundation (USA), are organizing the Second International Conference on Thin-Walled Structures to be held in Singapore on December 2-4, 1998. The conference theme includes: (1) Aircraft structures, (2) Bridges, (3) Offshore structures, (4) Ship structures, (5) Storage structures, (6) Cold-formed steel structures, (7) Perforated members, (8) Shells and pressure vessels, (9) Crash worthiness, (10) Fire resistance, (11) Impact behavior, and (12) Innovative applications. Abstract of papers should be submitted to Dr. N.E. Shanmugam, Chairman of the Organizing Committee, Department of Civil Engineering, National University of Singapore, 10 Kent Ridge Crescent, Singapore 119260, no later than November 30, 1997. Telephone: (+65) 772-2288, FAX: (+65) 779-1635.

Fourth International Conference on Steel and Aluminum Structures, Finland

The Fourth International Conference on Steel and Aluminum Structures will be held in Espoo, Finland during June 20-23, 1999. This conference is being organized by Professor Mäkeläinen at Helsinki University of Technology. It will cover the theoretical analysis and experimental investigation of light-weight metal building structures together with the basis for design models and the background to design codes for such structures. Major topics of papers include: (1) Modeling and analysis of metal structures and their components at both service and elevated temperatures, (2) Structures and elements in which light-weight metallic components interact with other complimentary materials, (3) Static and dynamic behavior, (4) Structural stability (5) Transfer of heat and moisture, (6) Long-term behavior and life-cycle analysis, and (7) Development of new structural products. Abstracts of papers should be submitted to Professor P. Mäkeläinen, Helsinki University of Technology, P.O. Box 2100, FIN-02015 HUT, Finland, not later than January 30, 1998. Telephone: (+358) 9-451-3780, FAX: (+358) 9-451-3826.

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